

Study Point	Coordinates	Distance/Bearing from KAFE	ERP and HAAT	F(50,50) signal strength per §73.313
#1: Blaine	N 49-00-00 W 122-44-30	36.3 km 11.4° True	17.04 dBk 748 m HAAT	83.2 dBu
#2: Point Roberts	N 49-00-00 W 123-05-26	40.1 km 332.8° True	17.88 dBk 744 m HAAT	82.2 dBu
#3: Patos Island	N 48-47-12 W 122-58-00	15.1 km 322.0° True	15.76 dBk 737 m HAAT	95.8 dBu

In all cases, this study indicates that within the power limitation zones, the KAFE signal strength at the edge of US land area will remain in excess of 82 dBu.

Furthermore, the KAFE transmitter site on Mount Constitution, with an antenna located at 2,454 feet above sea level, affords a commanding view of this entire area. KAFE has line-of-sight or near-line-of-sight conditions to every location on US territory within the power limitation zones. Therefore, and considering that the KAFE signal travels over water to reach all points not actually located on Orcas Island, actual received signal strengths at these locations are very likely to approach "free space" values.

The attached terrain profile plots depict the paths from Mount Constitution to the three study points. By applying the "free space" formula:

$$F = 106.9 + \text{ERP in dBk} - 20\log(\text{distance in km}) - \text{excess path loss in dB}$$

we find that the received signal strengths at the three study points are very likely to be 92.7 dBu at Study Point #1, 88.6 dBu at Study Point #2, and 99.1 dBu at Study Point #3.

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The study points chosen are extremely typical of the very high signal strength which will be maintained within the power limitation zones. Indeed, the points chosen are "worst case" in that they are as far from the KAFE transmitter site as one can get while still remaining on United States soil. Based on the results of the high signal strengths reported by this analysis, it can be concluded that no population within the United States will lose service from KAFE as a result of the proposed channel change and power limitation.

The Commission has the authority to grant the allotment change at Bellingham with the requested power limitations

The allotment of FM channels within the US-Canada border zone must be performed in accordance with the terms of the applicable international agreements. In this case the Working Arrangement, an international agreement negotiated between the United States Department of State and the government of Canada, is the controlling document. The Working Arrangement states very clearly that an FM station is only entitled to protection of that portion of its service area which lies on land within its home country. From Paragraph 5.2.2.4 of the Working Arrangement:

"Where the protected contour extends beyond the boundary of the country in which the allotment is located, protection shall be provided only to land areas, including islands, lying within that country. In this case, overlap of interfering and protected service contours shall be acceptable provided that the interference zone does not fall within these areas."

Thus, any coverage which KAFE currently has within Canada is not subject to protection under the terms of the applicable international agreement.

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Conclusions

It has been demonstrated that modification of the license of FM station KAFE to operate at Bellingham on Channel 281C with the power limitations specified herein will have no effect upon the extent of the KAFE service area or population within the United States, and no cognizable impact upon reception of the KAFE signal within the United States.

- 1) There will be no change in the extent of or population within the 60 dBu service area of KAFE over United States territory.
- 2) There will be no change in the extent of or the population within the 70 dBu service area of KAFE over United States territory.
- 3) There will be no power reduction over KAFE's community of license, Bellingham.
- 4) Most of the power limitation zone will fall over water areas within the United States. Only 8.2% to 12.1% (depending on whether one uses the licensed KAFE ERP or maximum Class C ERP as the baseline) is United States land area.
- 5) The population within the power limitation zones is small, less than 2% of the population served by KAFE within the United States. And none of this population will lose service from KAFE since KAFE will still maintain a very high signal strength at the border, likely well in excess of 82 dBu.

The Counterpetitioners pledge to reimburse Saga Broadcasting Corp., the licensee of KAFE, for reasonable expenses in connection with the foregoing channel change, including any antenna modifications necessary to provide the required protections to the Powell River and Bralome allotments, as required by Circleville, Ohio, 8 FCC Rcd 159 (1967).

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Since the only service area which KAFE would lose lies over Canadian territory, and since United States FM stations are not entitled to protected service over Canadian territory under the terms of the Working Arrangement, it is within the Commission's purview to approved the proposed modification of the Bellingham allotment with the power limitations requested herein.

The Counterpetitioners respectfully request that the instant proposal be referred to Canadian authorities for concurrence.

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Section III: Analysis of Gain and Loss Areas

Individual Gain and Loss Areas

The reallocation of Aberdeen Channel 284C2 to Shoreline 283C2 will involve a transmitter site change. The gain area directly associated with this modification will encompass 6,553 km² (land area) and a 2000 Census population of 2,368,207 persons.⁷ The loss area directly associated with this modification will encompass 6,834 km² (land area) and a 2000 Census population of 87,746 persons.

The substitution of Channel 281C for Channel 282C at Bellingham will not involve a transmitter site change. Therefore, there will be no domestic gain or loss areas directly associated with this modification.

The substitution of Channel 240A for Channel 280A at Forks will not involve a transmitter site change. Therefore, there will be no gain or loss areas directly associated with this modification.

The substitution of Channel 284C2 for Channel 237C3 at Hoquiam will involve a transmitter site change. The gain area directly associated with this modification will encompass 2,260 km² (land area) and a 2000 Census population of 9,647 persons. There is no loss area directly associated with this modification.

⁷ All population counts have been made using the "block centroid" method and 2000 Census data.

The assignment of Channel 237C3 for use at Aberdeen will have a gain area encompassing 4,808 km² (land area) and a 2000 Census population of 56,293 persons.

The assignment of Channel 226A for use at Trout Lake will have a gain area encompassing 2,519 km² (land area) and a 2000 Census population of 7,392 persons.

The assignment of Channel 261C2 for use at Arlington will have a gain area encompassing 8,569 km² and a 2000 Census population of 14,352 persons.

The assignment of Channel 300A for use at Moro will have a gain area encompassing 2,519 km² (land area) and a 2000 Census population of 2,200 persons.

The assignment of Channel 285A for use at Fossil will have a gain area encompassing 2,519 km² (land area) and a 2000 Census population of 1,726 persons.

Overall Gain and Loss Areas

Many of the individual gain and loss areas described above have mutual overlap. Three map exhibits are included at Exhibit 4 to depict the overall gain and loss areas associated with the proposed reallocation taken as a whole:⁸

1) Shoreline Gain/Loss Study

⁸As is described elsewhere in this Engineering Statement, the modification at Forks does not involve any loss or gain areas, and the modification at Bellingham does not involve any loss or gain areas within the United States.

- 2) Aberdeen & Hoquiam Gain/Loss Study
- 3) Trout Lake, Arlington, Moro & Fossil Gain/Loss Study

From these studies, the overall gain and loss areas have been tabulated:

Table of Gain and Loss Areas

Service Change	Land Area	Population
+2	1,630 km ²	1,742
+1	19,906 km ²	2,392,133
0	4,560 km ²	63,509
-1	1,960 km ²	23,546

Taken as a whole, the proposed reallocation plan will result in a gain area encompassing 21,536 km² (land area) and a 2000 Census population of 2,393,875 persons (of which 1,630 km² and 1,742 persons will receive two new services), and a loss area encompassing 1,960 km² (land area) and a 2000 Census population of 23,546 persons. As demonstrated in Section IV, all persons within the loss areas will continue to receive at least five aural services.

Section IV: Analysis of White, Gray and Underserved Areas

A detailed study has been undertaken to determine whether the proposed reallocation plan will result in the creation of, or provide new service to, any white, gray, or underserved areas. As is fully described below and illustrated by the attached map exhibits at Exhibit 5, grant of the proposed reallocation plan will provide additional service to 9,002 presently underserved persons in a 10,003 km² area. Of these, 558 persons in a 1,171 km² area will receive their first aural service, and 1,971 persons in a 2,324 km² area will receive their second aural service. No populated underserved areas will be created or exacerbated.

The allotment of Channel 283C2 at Shoreline will not provide service to any white or gray areas. Each of KIRO 710 kHz Seattle and KOMO 1000 kHz Seattle (both Class A stations) provide service to 100% of the Shoreline gain area.⁹ Service will be provided to some underserved areas totaling 370 km², but all of that area is located in rough and mountainous terrain, mostly in the Olympic National Forest and Olympic National Park, and all of that area is unpopulated.

⁹In determining reception service provided by FM stations, the area of service circumscribed by the station's 1.0 mV/m signal contour was considered, assuming 1) actual facilities for non-commercial stations operating on reserved channels, 2) maximum facilities for the class of station for stations (other than Class C stations) operating on non-reserved channels, and 3) minimum or existing Class C facilities, whichever is greater, for Class C stations. For clear channel Class A AM stations, the service area was defined by the station's 0.5 mV/m groundwave contour, based on its licensed facilities. For all other classes of full-time AM stations, reception service was defined as that service received within a station's nighttime interference-free contour. See Meeker and Craig, Colorado, 15 FCC Rcd 23858 (2000), Stamps and Fouke, Arkansas, 14 FCC Rcd 10533 (1999), Silverton and Bayfield, Colorado, 14 FCC Rcd 4071 (1999), Malvern and Bryant, Arkansas, 13 FCC Rcd 8426 (1998), and others.

Aberdeen 284C2 (Del) 237C3 (Add), Hoquiam 237C3 (Del) 284C2 (Add): Since these four service areas overlap, the resulting aggregate gain and loss area has been studied together. The loss area associated with the allotment changes at Aberdeen and Hoquiam includes an underserved area totaling 16 km², but that area is unpopulated. Conversely, the allotment changes at Aberdeen and Hoquiam will provide service to some presently underserved areas totaling 1,074 persons in a 445 km² area. Of these, 22 persons in a 25 km² area will receive their second aural service.

Trout Lake 226A: The allotment of Channel 226A at Trout Lake will not provide service to any white areas, since KMCQ 283C The Dalles provides service to 100% of the Trout Lake gain area. Service will be provided to some underserved areas totaling 1,788 km² and a population of 1,573. This includes some gray area totaling 198 km², but that gray area is unpopulated.

Arlington 261C2 and Moro 300A: Since these two service areas overlap, the resulting aggregate gain area has been studied as if it were a single gain area. The allotment of channels at Arlington and Moro will provide a first aural service to 390 persons in a 320 km² area, and will provide a second aural service to 1,246 persons in a 1,037 km² area. Overall, these two allotments will provide additional service to 4,645 presently underserved persons in a 4,888 km² area.

Fossil 285A: The allotment of Channel 285A at Fossil will provide a first aural service to 168 persons in a 851 km² area, and will provide a second aural service to 703 persons in a 1,064 km² area.

**Tabulation of Underserved Areas
Which Will Gain Additional Service
As a Result of Grant of the Instant Proposal
(Population per 2000 Census)**

Gain Area	Number of Existing Services									
	Zero Services		1 Service		2 Services		3 Services		4 Services	
Shoreline	---	---	---	---	0 pop	81 km ²	0 pop	235 km ²	0 pop	49 km ²
Aberdeen-Hoquiam	---	---	22 pop	25 km ²	55 pop	42 km ²	703 pop	248 km ²	294 pop	130 km ²
Trout Lake	---	---	0 pop	198 km ²	640 pop	1,017 km ²	522 pop	238 km ²	411 pop	335 km ²
Arlington-Moro	390 pop	320 km ²	1,246 pop	1,037 km ²	552 pop	1,652 km ²	332 pop	986 km ²	2,125 pop	893 km ²
Fossil	168 pop	851 km ²	703 pop	1,064 km ²	828 pop	468 km ²	11 pop	134 km ²	---	---
Total	558 pop	1,171 km ²	1,971 pop	2,324 km ²	2,075 pop	3,260 km ²	1,568 pop	1,841 km ²	2,830 pop	1,407 km ²

Grand Total: 9,002 underserved persons in 10,003 km²

**Tabulation of Underserved Areas
Which Will Lose Service
As a Result of Grant of the Instant Proposal
(Population per 2000 Census)**

Loss Area	Number of Remaining Services					
	Zero Services		1 Service		2 Services	
Shoreline	---	---	---	---	---	---
Aberdeen-Hoquiam	---	---	---	---	0 pop 3 km ²	0 pop 13 km ²
Trout Lake	---	---	---	---	---	---
Arlington-Moro	---	---	---	---	---	---
Fossil	---	---	---	---	---	---
Total	---	---	---	---	0 pop 3 km ²	0 pop 13 km ²

Grand Total: zero underserved persons in 16 km²

Comparison To the Initial Petitioners' Proposal

In Table III of Figure 10 of the Technical Exhibit accompanying the Initial Petitioners' proposal, 58 persons in a 140 km² area within the gain area are listed as receiving a first aural service as a result of that proposal.

That figure is not wholly inclusive of the total area which would receive a first aural service as a result of a grant of the Initial Petitioners' proposal, since (as depicted on their Figure 6), some presently unserved area would receive two aural services (from Arlington Channel 261C2 and from Moro Channel 283C1). These persons are apparently counted in Table III of Figure 10 as being among the 1,362 persons in the gain area who will receive 2 services. But since that 1,362 person figure includes both a) existing white area population which will receive 2 new services, and b) existing gray area population which will receive 1 new service, an analysis has been made to determine exactly how many fall into category "a".

Based on this analysis, we have determined that there are 408 persons in white areas who would receive their first (and in some cases second) aural service as a result of the Initial Petitioners' proposal.

By comparison, the Counterpetitioners' proposal detailed herein would provide a first aural service to all 408 persons who would receive such service as a result of the Initial Petitioners' proposal, and would provide a first aural service to an additional 150 persons, for a total of 558 persons (in a 1,171 km² land area).

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Section V: Analysis of Need for "Tuck" Study

While the allotment of Channel 283C2 for use at Shoreline will provide 70 dBu service to just 23.4% of the Seattle Urbanized Area, Shoreline is located within the Seattle Urbanized Area. Based upon these circumstances, a "Tuck" analysis is believed to be required in support of the Shoreline aspect of the proposed reallocation plan, and is included in the legal portion of this filing.

The Shoreline allotment will provide 70 dBu service to 94.6% of the Bremerton Urbanized Area. However, since Shoreline is located within the Seattle Urbanized Area, is in a different county than Bremerton, and is separated from Bremerton by the waters of Puget Sound, Shoreline is clearly independent from Bremerton.

Aside from the allotment of Channel 283C2 at Shoreline, no other aspect of the proposed reallocation plan involves changes in service near an Urbanized Area or in any other way triggers the need for a "Tuck" analysis.

Section VI: Statement of Engineer

This Engineering Statement supporting a Petition for Rulemaking to revise the FM Table of Allotments has been prepared by Erik C. Swanson, EIT, under my direct supervision. All representations herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am a partner in the firm of Hatfield & Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and California.

Signed this 20th day of July, 2002.



Benjamin F. Dawson III, P.E.

Hatfield & Dawson Consulting Engineers

Exhibit 1

FM Channel Studies

Hatfield & Dawson Consulting Engineers

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 283C2 104.5 MHz

Page 1

Latitude: 47 45 15

Longitude: 122 35 27

Safety Zone: 50 km

Job Title: KDUX SHORELINE 283C2 ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K281AD LIC	OLYMPIA WA	BLFT-931228TD	281D 104.1	0.050 94.0	47-03-10 122-50-45	193.9	80.32 0.00	0 TRANS
KAFE LIC	BELLINGHAM WA	BLH-4978	282C 104.3	60.000 704.0	48-40-48 122-50-24	349.9	104.60 -83.40	188 SHORT
NOTE: TO MOVE TO 281C AS A PART OF THIS PROPOSAL								
VAC	CHEHALIS WA	-	282A 104.3	0.000 0.0	46-38-57 122-57-58	193.1	126.10 20.10	106 CLEAR
K282AB LIC	CHEHALIS WA	BLFT-940321TA	282D 104.3	0.040 86.0	46-36-43 122-57-15	192.3	129.94 0.00	0 TRANS
DEL	THE DALLES OR	RM-10458	283C 104.5	0.000 0.0	45-42-44 121-06-50	153.1	253.52 4.52	249 CLOSE
KMCQ LIC	THE DALLES OR	BLH-990512KA	283C 104.5	100.000 609.0	45-42-44 121-06-50	153.1	253.52 4.52	249 CLOSE
KMCQ CP	THE DALLES OR	BPH-990512IC	283C 104.5	100.000 609.0	45-42-44 121-06-51	153.1	253.51 4.51	249 CLOSE
ADD	COVINGTON WA	RM-10458	283C3 104.5	0.000 0.0	47-12-02 122-00-27	144.3	75.64 -101.36	177 SHORT
NOTE: THE INSTANT PROPOSAL IS A COUNTERPROPOSAL TO THE COVINGTON 283C3 PROPOSAL								
K283AH LIC	GIG HARBOR WA	BLFT-000622AFV	283D 104.5	0.050 121.0	47-20-17 122-35-49	180.6	46.27 0.00	0 TRANS
K283AI LIC	LONGVIEW WA	BLFT-011109ABB	283D 104.5	0.020 347.0	46-09-46 122-51-05	186.5	178.02 0.00	0 TRANS
KMIH APP	MERCER ISLAND WA	BMPH-020517ABD	283D 104.5	0.030 69.0	47-34-21 122-13-01	125.7 SS	34.59 0.00	0 CLS=D
KMIH CP	MERCER ISLAND WA	BPED-010529AAP	283D 104.5	0.030 69.0	47-34-19 122-12-55	125.6	34.73 0.00	0 CLS=D
KMIH LIC	MERCER ISLAND WA	BMLED-960913KF	283D 104.5	0.010 71.0	47-34-19 122-12-55	125.6	34.73 0.00	0 CLS=D

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 283C2 104.5 MHz

Page 2

Latitude: 47 45 15

Longitude: 122 35 27

Safety Zone: 50 km

Job Title: KDUX SHORELINE 283C2 ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KDUX-FM LIC	ABERDEEN WA	BLH-7777	284C2 104.7	31.000 110.0	46-56-00 123-43-49	223.7	125.47 -4.53	130 SHORT
KDUX-FM LIC	ABERDEEN WA	BMLH-990125KC	284C2 104.7	31.000 110.0	46-56-00 123-43-49	223.7	125.47 -4.53	130 SHORT
KDUXaux LIC	ABERDEEN WA	BLH-951011KC	284C2 104.7	1.000 -8.0	46-57-27 123-48-53	226.6	128.04 0.00	0 AUX
KFNK CP	EATONVILLE WA	BPH-000517AEL	285A 104.9	5.100 109.0	46-50-24 122-15-27	166.0	104.71 49.71	55 CLEAR
KFNK CP	EATONVILLE WA	BPH-001211AEI	285C3 104.9	17.000 124.0	DA 46-50-24 122-15-27	166.0 SS	104.71 48.71	56 CLEAR
KFNK LIC	EATONVILLE WA	BLH-950814KD	285A 104.9	2.500 151.0	46-50-24 122-15-27	166.0	104.71 49.71	55 CLEAR
	METCHOSIN ETC. BC	RM-	286A 105.1	0.000 0.0	48-24-09 123-34-20	315.0	102.69 33.69	69 CLEAR
CFUVFM	VICTORIA BC	-	286D 105.1	0.050 51.0	48-27-52 123-18-35	326.2	95.41 0.00	0 TRANS

===== BEGINNING SEARCH OF SECONDARY DATABASE =====

KAFE VACANT	BELLINGHAM WA	-PLANNED	281C 104.1	0.000 0.0	48-40-48 122-50-24	349.9	104.60 -0.40	105 SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								
KDUX VACANT	SHORELINE WA	-PLANNED	283C2 104.5	0.000 0.0	47-45-15 122-35-27	0.0	0.00 -190.00	190 SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								
KXXX VACANT	HOQUIAM WA	-PLANNED	284C2 104.7	0.000 0.0	46-56-33 123-49-26	226.3	129.71 -0.29	130 SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								

===== END OF FM SPACING STUDY FOR CHANNEL 283 =====

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 281C 104.1 MHz

Page 1

Latitude: 48 40 48

Longitude: 122 50 24

Safety Zone: 50 km

Job Title: KAFE BELLINGHAM 281C ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
CHQMFM	VANCOUVER		278C	100.000	DA 49-21-17	353.6	75.52	113
	BC -		103.5	611.0	122-57-25		-37.48	SHORT
KMTT	TACOMA		279C	58.000	DA 47-30-14	153.5	145.80	105
LIC	WA BLH-920826KC		103.7	714.0	121-58-29		40.80	CLEAR
KMTTaux	TACOMA		279C	50.000	DA 47-32-35	156.4	137.70	0
LIC	WA BXLH-001018ACI		103.7	388.0	122-06-25		0.00	AUX
	HEDLEY		280A	0.000	49-12-24	72.7	209.95	182
	BC RM-		103.9	0.0	120-05-16		27.95	CLEAR
CIFM-3	MERRITT		280B	0.020	DA 50-11-40	38.0	216.22	209
	BC -		103.9	648.0	120-58-15		7.22	CLOSE
	POWELL RIVER		280A	0.000	49-44-34	314.6	170.57	182
	BC -		103.9	0.0	124-31-40		-11.43	SHORT
KLLM	FORKS		280A	3.000	47-57-16	235.4	140.38	165
LIC	WA BLH-910401KA		103.9	-23.0	124-23-20		-24.62	SHORT
NOTE: TO MOVE TO CHANNEL 240A AS A PART OF THIS PROPOSAL								
	BRALORNE		281A	0.000	50-47-00	0.4	233.95	247
	BC -		104.1	0.0	122-49-00		-13.05	SHORT
	KELSEY BAY		281A	0.000	50-22-36	311.2	294.01	247
	BC -		104.1	0.0	125-57-15		47.01	CLEAR
K281AD	OLYMPIA		281D	0.050	47-03-10	180.1	180.93	0
LIC	WA BLFT-931228TD		104.1	94.0	122-50-45		0.00	TRANS
KXDD	YAKIMA		281C1	100.000	DA 46-30-48	141.9	302.76	270
LIC	WA BLH-020305AAX		104.1	245.0	120-24-05		32.76	CLEAR
KAFE	BELLINGHAM		282C	60.000	48-40-48	0.0	0.00	241
LIC	WA BLH-4978		104.3	704.0	122-50-24		-241.00	SHORT

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 281C 104.1 MHz

Page 2

Latitude: 48 40 48

Longitude: 122 50 24

Safety Zone: 50 km

Job Title: KAFE BELLINGHAM 281C ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KMIH	MERCER ISLAND		283D	0.030	47-34-21	159.2	131.59	0
APP	WA	BMPH-020517ABD	104.5	69.0	122-13-01	SS	0.00	CLS=D
KMIH	MERCER ISLAND		283D	0.030	47-34-19	159.1	131.69	0
CP	WA	BPED-010529AAP	104.5	69.0	122-12-55		0.00	CLS=D
KMIH	MERCER ISLAND		283D	0.010	47-34-19	159.1	131.69	0
LIC	WA	BMLE-960913KF	104.5	71.0	122-12-55		0.00	CLS=D
	PENDER HARBOUR		284A	0.000	49-36-56	321.3	134.32	101
	BC RM-		104.7	0.0	124-00-16		33.32	CLEAR
	SECHELT		284D	0.000	49-29-12	321.8	114.93	101
	BC RM-		104.7	0.0	123-49-24		13.93	CLEAR
	SECHELT		284A	0.000	49-29-12	321.8	114.93	101
	BC RM-		104.7	0.0	123-49-24		13.93	CLEAR
	SECHELT		284D	0.000	49-29-12	321.8	114.93	101
	BC RM-		104.7	0.0	123-49-24		13.93	CLEAR
CISEFM	SECHELT		284D	0.000	49-29-12	321.8	114.93	0
	BC -		104.7	140.0	123-49-24		0.00	TRANS

===== BEGINNING SEARCH OF SECONDARY DATABASE =====

KAFE	BELLINGHAM		281C	0.000	48-40-48	0.0	0.00	290
VACANT	WA	-PLANNED	104.1	0.0	122-50-24		-290.00	SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								
KDUX	SHORELINE		283C2	0.000	47-45-15	169.7	104.60	105
VACANT	WA	-PLANNED	104.5	0.0	122-35-27		-0.40	SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								

===== END OF FM SPACING STUDY FOR CHANNEL 281 =====

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 240A 95.9 MHz

Page 1

Latitude: 47 57 16

Longitude: 124 23 20

Safety Zone: 50 km

Job Title: KLLM FORKS 240A ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
	UCLUELET		239B	0.000	48-59-09	324.8	141.26	137
	BC -		95.7	0.0	125-30-15		4.26	CLOSE
KJR-FM	SEATTLE		239C	100.000	47-32-40	104.1	177.07	165
LIC	WA BLH-010206AAB		95.7	387.0	122-06-26	SS	12.07	CLEAR
KJR-aux	SEATTLE		239C	22.000	47-32-40	104.1	177.07	0
CP	WA BXPB-001005ACA		95.7	368.0	122-06-26		0.00	AUX
	VANCOUVER		241C	74.000	49-21-29	33.5	188.58	182
	BC RM-		96.1	668.0	122-57-09		6.58	CLOSE
CKO-4	VANCOUVER		241C	100.000	49-21-12	33.6	188.04	182
	BC -		96.1	567.0	122-57-18		6.04	CLOSE
KXXO	OLYMPIA		241C	85.000	46-38-07	134.6	206.50	165
LIC	WA BLH-900308KB		96.1	640.0	122-28-01		41.50	CLEAR

===== BEGINNING SEARCH OF SECONDARY DATABASE =====

KLLM	FORKS		240A	0.000	47-57-16	0.0	0.00	115
VACANT	WA -PLANNED		95.9	0.0	124-23-20		-115.00	SHORT

NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL

===== END OF FM SPACING STUDY FOR CHANNEL 240 =====

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 284C2 104.7 MHz

Page 1

Latitude: 46 56 33

Longitude: 123 49 26

Safety Zone: 50 km

Job Title: KXXX HOQUIAM 284C2 ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K281AD	OLYMPIA		281D	0.050	47-03-10	80.3	75.40	0
LIC	WA	BLFT-931228TD	104.1	94.0	122-50-45		0.00	TRANS
VAC	CHEHALIS		282A	0.000	46-38-57	116.2	73.16	55
	WA	-	104.3	0.0	122-57-58		18.16	CLEAR
K282AB	CHEHALIS		282D	0.040	46-36-43	118.7	75.91	0
LIC	WA	BLFT-940321TA	104.3	86.0	122-57-15		0.00	TRANS
ADD	COVINGTON		283C3	0.000	47-12-02	77.6	140.92	117
	WA	RM-10458	104.5	0.0	122-00-27		23.92	CLEAR
K283AH	GIG HARBOR		283D	0.050	47-20-17	64.2	102.94	0
LIC	WA	BLFT-000622AFV	104.5	121.0	122-35-49		0.00	TRANS
K283AI	LONGVIEW		283D	0.020	46-09-46	139.0	114.35	0
LIC	WA	BLFT-011109ABB	104.5	347.0	122-51-05		0.00	TRANS
KMIH	MERCER ISLAND		283D	0.030	47-34-21	59.4	140.36	0
APP	WA	BMPH-020517ABD	104.5	69.0	122-13-01	SS	0.00	CLS=D
KMIH	MERCER ISLAND		283D	0.030	47-34-19	59.4	140.44	0
CP	WA	BPED-010529AAP	104.5	69.0	122-12-55		0.00	CLS=D
KMIH	MERCER ISLAND		283D	0.010	47-34-19	59.4	140.44	0
LIC	WA	BMLD-960913KF	104.5	71.0	122-12-55		0.00	CLS=D
KDUK-FM	FLORENCE		284C	63.000	44-17-35	175.6	295.31	249
LIC	OR	BMLH-020205AAK	104.7	709.0	123-32-15		46.31	CLEAR
KDUX-FM	ABERDEEN		284C2	31.000	46-56-00	98.1	7.20	190
LIC	WA	BLH-7777	104.7	110.0	123-43-49		-182.80	SHORT
NOTE: TO MOVE TO SHORELINE 283C2 AS A PART OF THIS PROPOSAL								
KDUX-FM	ABERDEEN		284C2	31.000	46-56-00	98.1	7.20	190
LIC	WA	BMLH-990125KC	104.7	110.0	123-43-49		-182.80	SHORT
NOTE: TO MOVE TO SHORELINE 283C2 AS A PART OF THIS PROPOSAL								
KDUXaux	ABERDEEN		284C2	1.000	46-57-27	22.6	1.81	0
LIC	WA	BLH-951011KC	104.7	-8.0	123-48-53		0.00	AUX

SEARCH PARAMETERS

FM Database Date: 020629

Page 2

Channel: 284C2 104.7 MHz
 Latitude: 46 56 33
 Longitude: 123 49 26
 Safety Zone: 50 km
 Job Title: KXXX HOQUIAM 284C2 ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
K284AK CP	WOODLAND WA	BPFT-011022AAZ	284D 104.7	0.080 153.0	DA 45-46-35 122-41-30	145.8	156.19 0.00	0 TRANS
K285DN LIC	CANNON BEACH OR	BLFT-880909TC	285D 104.9	0.060 88.0	DA 45-52-42 123-57-15	184.9	118.71 0.00	0 TRANS
KFNK CP	EATONVILLE WA	BPH-000517AEL	285A 104.9	5.100 109.0	46-50-24 122-15-27	94.9	119.92 13.92	106 CLEAR
KFNK CP	EATONVILLE WA	BPH-001211AEI	285C3 104.9	17.000 124.0	DA 46-50-24 122-15-27	94.9 SS	119.92 2.92	117 CLOSE
KFNK LIC	EATONVILLE WA	BLH-950814KD	285A 104.9	2.500 151.0	46-50-24 122-15-27	94.9	119.92 13.92	106 CLEAR

===== BEGINNING SEARCH OF SECONDARY DATABASE =====

KDUX VACANT	SHORELINE WA	-PLANNED	283C2 104.5	0.000 0.0	47-45-15 122-35-27	45.4	129.71 -0.29	130 SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								
KXXX VACANT	HOQUIAM WA	-PLANNED	284C2 104.7	0.000 0.0	46-56-33 123-49-26	0.0	0.00 -190.00	190 SHORT
NOTE: PROPOSED AS A PART OF THE INSTANT COUNTERPROPOSAL								

===== END OF FM SPACING STUDY FOR CHANNEL 284 =====

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 237C3 95.3 MHz

Page 1

Latitude: 46 59 55

Longitude: 123 58 31

Safety Zone: 50 km

Job Title: ABERDEEN 237C3 ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KITI-FM WINLOCK LIC	WA	BLH-950501KB	236A 95.1	0.380 268.0	46-32-35 123-01-14	124.5 SS	88.78 -0.22	89 SHORT
KITI-FM WINLOCK CP	WA	BPH-990901IC	236A 95.1	0.400 262.0	46-32-35 123-01-14	124.5 SS	88.78 -0.22	89 SHORT
	VANCOUVER BC	-	237C 95.3	0.000 0.0	49-15-00 123-06-00	14.2	258.68 -0.32	259 SHORT
	VANCOUVER BC	-	237C 95.3	75.000 686.0	49-21-29 122-57-09	15.7	273.16 14.16	259 CLEAR
KXLE-FM ELLENSBURG CP	WA	BPH-001026AAV	237C1 95.3	100.000 266.0	47-10-36 120-46-50	84.2	243.39 32.39	211 CLEAR
KXXK LIC	HOQUIAM WA	BMLH-960226KA	237A 95.3	3.000 137.0	46-55-53 123-44-02	112.1	19.83 -122.17	142 SHORT
TO CHANGE TO 284C2 AS A PART OF THIS PROPOSAL								
KXXK CP	HOQUIAM WA	BPH-970328IE	237C3 95.3	5.000 133.0	46-56-30 123-47-07	113.6 SS	15.78 -137.22	153 SHORT
TO CHANGE TO 284C2 AS A PART OF THIS PROPOSAL								
KXJMaux LIC	PORTLAND OR	BLH-981023KC	238C 95.5	40.000 309.0	45-29-20 122-41-40	149.1	194.73 0.00	0 AUX
KXJM LIC	PORTLAND OR	BLH-980901KC	238C 95.5	100.000 386.0	45-29-20 122-41-40	149.1	194.73 18.73	176 CLEAR

===== BEGINNING SEARCH OF SECONDARY DATABASE =====

===== END OF FM SPACING STUDY FOR CHANNEL 237 =====

SEARCH PARAMETERS

FM Database Date: 020629

Channel: 226A 93.1 MHz

Page 1

Latitude: 45 58 38

Longitude: 121 32 11

Safety Zone: 50 km

Job Title: TROUT LAKE 226A ALLOTMENT SITE

Call Status	City St	FCC File No.	Channel Freq.	ERP(kW) HAAT(m)	Latitude Longitude	Bearing deg-True	Dist (km)	Req (km)
KMSW APP	THE DALLES OR	BMPH-020307ABC	224C3 92.7	3.200 272.0	45-38-56 121-16-20	150.6	41.87 -0.13	42 SHORT
KMSW CP	THE DALLES OR	BPH-941215MB	224C3 92.7	3.700 259.0	45-38-53 121-16-43	151.3	41.71 -0.29	42 SHORT
K220HR LIC	THE DALLES, ETC. OR	BLFT-910409TB	224D 92.7	0.090 638.0	45-43-17 121-26-25	165.3	29.40 0.00	0 TRANS
K224CP CP	HAZEL DELL WA	BPFT-020416AAY	224D 92.7	0.010 488.0	45-40-35 122-22-39	243.1	73.42 0.00	0 TRANS
KAST-FM LIC	ASTORIA OR	BLH-991209AAO	225C1 92.9	99.000 174.0	46-10-56 123-48-09	278.2	176.77 43.77	133 CLEAR
K224CP LIC	HAZEL DELL WA	BLFT-020225ABO	225D 92.9	0.050 0.0	45-39-38 122-33-30	246.4	86.87 0.00	0 TRANS
KDBL LIC	TOPPENISH WA	BLH-900706KF	225C2 92.9	17.000 257.0	46-30-15 120-23-33	55.9	105.90 -0.10	106 SHORT
K227AJ LIC	WOODLAND WA	BLFT-001220ACF	225D 92.9	0.050 143.0	45-46-35 122-41-30	256.4	92.43 0.00	0 TRANS
K225AI LIC	PORTLAND OR	BLFT-970722TH	226D 93.1	0.020 417.0	45-21-17 122-59-23	239.0	132.72 0.00	0 TRANS
NEW APP	PORTLAND OR	BNPL-010614AGF	226L1 93.1	0.000 0.0	45-34-12 122-33-36	240.7	91.58 0.00	0 LPPM
KKNU LIC	SPRINGFIELD-EUGENE OR	BLH-970925KF	226C 93.1	100.000 396.0	44-00-04 123-06-45	210.0	252.34 26.34	226 CLEAR
ADD	TROUT LAKE WA	RM-10458	226A 93.1	0.000 0.0	45-58-38 121-32-11	0.0	0.00 -115.00	115 SHORT
KUBEaux LIC	SEATTLE WA	BLH-831110AF	227C 93.3	87.000 375.0	47-32-39 122-06-29	346.2	179.58 0.00	0 AUX